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☐ 1: P16303. LIVER CARBOXYLEST...[gi:119596]

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LOCUS ES10\_RAT 565 aa linear ROD 15-JUL-1999  
 DEFINITION LIVER CARBOXYLESTERASE 10 PRECURSOR (CARBOXYESTERASE ES-10) (PI 6.1 ESTERASE) (ES-HVEL).  
 ACCESSION P16303  
 VERSION P16303 GI:119596  
 DBSOURCE swissprot: locus ES10\_RAT, accession P16303;  
 class: standard.  
 extra accessions: Q64574, created: Aug 1, 1990.  
 sequence updated: Aug 1, 1990.  
 annotation updated: Jul 15, 1999.  
 xrefs: gi: [56898](#), gi: [56899](#), gi: [57553](#), gi: [57554](#), gi: [1162963](#), gi: [1162964](#), gi: [92053](#)  
 xrefs (non-sequence databases): HSSP P21836, PFAM PF00135, PROSITE PS00122, PROSITE PS00941  
 KEYWORDS Hydrolase; Serine esterase; Glycoprotein; Endoplasmic reticulum; Signal; Multigene family.  
 SOURCE Rattus norvegicus.  
 ORGANISM Rattus norvegicus  
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.  
 REFERENCE 1 (residues 1 to 565)  
 AUTHORS Robbi, M., Beaufay, H. and Octave, J.N.  
 TITLE Nucleotide sequence of cDNA coding for rat liver pI 6.1 esterase (ES-10), a carboxylesterase located in the lumen of the endoplasmic reticulum  
 JOURNAL Biochem. J. 269 (2), 451-458 (1990)  
 MEDLINE [90351366](#)  
 PUBMED [2386485](#)  
 REMARK SEQUENCE FROM N.A.  
 STRAIN=SPRAGUE-DAWLEY, AND WISTAR; TISSUE=LIVER  
 REFERENCE 2 (residues 1 to 565)  
 AUTHORS Medda, S. and Proia, R.L.  
 TITLE The carboxylesterase family exhibits C-terminal sequence diversity reflecting the presence or absence of endoplasmic-reticulum-retention sequences  
 JOURNAL Eur. J. Biochem. 206 (3), 801-806 (1992)  
 MEDLINE [92299008](#)  
 PUBMED [1606962](#)  
 REMARK SEQUENCE FROM N.A.  
 STRAIN=SPRAGUE-DAWLEY; TISSUE=LIVER  
 REFERENCE 3 (residues 1 to 565)  
 AUTHORS Ghosh, S., Mallonee, D.H., Hylemon, P.B. and Grogan, W.M.  
 TITLE Molecular cloning and expression of rat hepatic neutral cholesteryl ester hydrolase  
 JOURNAL Biochim. Biophys. Acta 1259 (3), 305-312 (1995)  
 MEDLINE [96130267](#)  
 PUBMED [8541339](#)

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MEDLINE [96130267](#)  
PUBMED [8541339](#)

REMARK SEQUENCE FROM N.A.  
STRAIN=SPRAGUE-DAWLEY; TISSUE=LIVER

## COMMENT

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[FUNCTION] PROBABLY INVOLVED IN THE METABOLISM OF XENOBIOTICS AND OF NATURAL SUBSTRATES.  
[CATALYTIC ACTIVITY] A CARBOXYLIC ESTER + H(2)O = AN ALCOHOL + A CARBOXYLIC ANION.  
[SUBUNIT] HOMOTRIMER.  
[SUBCELLULAR LOCATION] ENDOPLASMIC RETICULUM LUMEN.  
[SIMILARITY] BELONGS TO THE TYPE-B CARBOXYLESTERASE/LIPASE FAMILY.

## FEATURES

	Location/Qualifiers
<u>source</u>	1..565 /organism="Rattus norvegicus" /db_xref="taxon:10116"
<u>Protein</u>	1..565 /product="LIVER CARBOXYLESTERASE 10 PRECURSOR" /EC_number="3.1.1.1"
<u>Region</u>	1..18 /region_name="Signal"
<u>Region</u>	19..565 /region_name="Mature chain"
<u>Site</u>	79 /site_type="glycosylation" /note="POTENTIAL."
<u>Bond</u>	bond(87,116) /bond_type="disulfide" /note="BY SIMILARITY."
<u>Region</u>	186 /region_name="Variant" /note="R -> Q (IN SPRAGUE-DAWLEY)."
<u>Site</u>	221 /site_type="active" /note="BY SIMILARITY."
<u>Region</u>	265 /region_name="Variant" /note="K -> N (IN SPRAGUE-DAWLEY)."
<u>Bond</u>	bond(273,284) /bond_type="disulfide" /note="BY SIMILARITY."
<u>Site</u>	353 /site_type="active" /note="BY SIMILARITY."
<u>Region</u>	420 /region_name="Conflict" /note="A -> E (IN REF. 3)."
<u>Region</u>	423 /region_name="Variant" /note="I -> M (IN SPRAGUE-DAWLEY)."
<u>Site</u>	466 /site_type="active" /note="BY SIMILARITY."
<u>Site</u>	489 /site_type="glycosylation"

Region /note="POTENTIAL."  
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/region\_name="Conflict"  
Region /note="SK -> TQ (IN REF. 3)."  
506  
/region\_name="Variant"  
Site /note="S -> N (IN SPRAGUE-DAWLEY)."  
562..565  
/site\_type="unclassified"  
/note="PREVENT SECRETION FROM ER (POTENTIAL)."

## ORIGIN

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1 mrlyplvwlf laactawgyp ssppvntvk gkvlgkyvnl egfaqpavvf lgipfakppl
61 gslrfappqp aepwnfvknt tsyppmcsqd avggqvlsef ftnrkenipl qfsedclyln
121 vytpadltkn srlpvmvwh ggglvvggas tydgqvlseh envvvvtiqy rlgwgffst
181 gdehsrgnwg hldqvaalhw vqdnianfgg npgsvtifge saggfsvsal vlsplaknlf
241 hraisegvv ltsalitts kpiakliatl sgcktttsav mvhclrqkte delletslkl
301 nlfkldllgn pkesypflpt vidgvvlpkt peeilaeksf ntvpyivgin kgefzwipt
361 lmgypplsegk ldqktaksll wksyptlkis ekmpvvaek yfggtddpak rkdlfqdlva
421 dvifgvpsvm vsrshrdaga ptfmyefeyr psfvsamrp tvigdhgdel fsvfgspflk
481 dgaseeetnl skmvmkywan farngspngg glphwpeydg kegylkigas tqaaqrlkdk
541 evafwselra keaaeepshw khvel
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Revised: July 5, 2002.

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